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10/520,118	11/21/2005	Hironori Endo	Q85548	9556
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SUGHRUE MION, PLLC			HA, NGUYEN Q	
2100 Pennsylvania Avenue, N.W.				
Washington, DC 20037			ART UNIT	PAPER NUMBER
			2854	
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			07/23/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@sughrue.com
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USPatDocketing@sughrue.com

Office Action Summary	Application No.	Applicant(s)	
	10/520,118	ENDO, HIRONORI	
	Examiner	Art Unit	
	'Wyn' Q. HA	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 04 January 2008.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-15 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 03 January 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/30/05, 3/29/07</u> . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION***Drawings***

The drawings are objected to because:

Fig. 11 doesn't show that the "predetermined position of the left edge of the print paper P" is a position slightly to the right from the left edge of the print paper P (which is disclosed in the specification page 31, lines 20-23).

Fig. 14(d) and Fig. 14(e) appear to be redundant (i.e. not needed).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure is objected to because the phrase "causes the detection means to be positioned on the other side opposite from the one side in the

Art Unit: 2854

movement direction" is confusing. The phrase could be amended, so that the abstract would read:

-- The print start position, in a predetermined direction, of a medium to be printed is determined with high precision and efficiency. A printing apparatus causes the detection means to be positioned on one side in the movement direction; causes the carrying means to carry the medium to be printed in a predetermined direction up to a detection position where the detection means detects the medium to be printed; and when an upper end, among an upper right end and an upper left end of the medium to be printed, that is on a side opposite from a side where the detection means is positioned is leading by at least a set amount at the detection position, causes the detection means to ~~be positioned on~~ move to the other side opposite from the one side in the movement direction, then causes the carrying means to carry the medium to be printed from the detection position in a direction opposite from the predetermined direction, then causes the medium to be printed to be carried in the predetermined direction up to the detection position where the detection means detects the medium to be printed, and then causes the medium to be printed to be carried by a predetermined amount in the predetermined direction from the detection position.--

Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities:

On page 30, the sentence on lines 3 & 4 from top is unclear as to what it means. For purposes of examination, the sentence is interpreted to read:

--That is, the print head 36 also stops at the same initial position in the paper carrying direction (see Fig. 11(a) and Fig. 12(a)).

On page 32, 2nd paragraph, and on page 36, 1st paragraph, it is unclear how the system controller 54 determines whether the left end or right end of the paper is leading (especially prior to that the paper sensor 29 mounted on the print head hasn't moved from one side to the other side to detect the presence of the paper).

On page 39-41 and 41, it is unclear what it means by a combination of the following:

"At the same time, while making it difficult for the electric signal measuring section 66 to detect the light irradiated onto the print paper P, it begins measuring the intensity of the electric signal obtained from the light-receiving member 40 (S38). Then, the result of the measurement by the electric signal measuring section 66 is supplied to the system controller 54 (S40)."

"Specifically, making it difficult for the electric signal measuring section 66 to detect the light irradiated onto the print paper P is equivalent to the print head 36 beginning to move in the main-scanning direction from a predetermined position of the left side toward a predetermined position of the right side of the print paper P in a state where the print head 36 appears to have moved in the sub-scanning direction in correspondence with how difficult it has been made for the electric signal measuring section 66 to detect the light irradiated onto the print paper P."

"For example, in step S38, when the upper right end of the print paper P is leading the upper left end in the sub-scanning direction by a distance h1 (distance h), the electric signal measuring section 66 continues to output the logic value "H" even if the print head 36 is moved in the main-scanning direction from the predetermined position on the left side to the predetermined position on the right side, and does not detect light being irradiated to the print paper P."

"The system controller 54 supplies a control signal for driving the CR motor 30 to the main-scan drive circuit 61. Also, the system controller 54 supplies to the reflective optical sensor control circuit 65 a control signal for the electric signal measuring section 66 to detect light irradiated to the print paper P at the normal measuring accuracy. In this way, the print head 36 begins to move in the main-scanning direction from the predetermined position of the left side of the print paper P toward a predetermined position of the right side in conjunction with movement of the carriage 28 (see Fig. 14(f)). At the same time, the electric signal measuring section 66 begins measuring the intensity of the electric signal obtained from the light-receiving member 40 at the normal measuring accuracy. Then, the result of the measurement by the electric signal measuring section 66 is supplied to the system controller 54 (SI02).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 7 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, Claim 7 contain a limitation “it is made difficult for said detection section to detect said medium to be printed when said detection section is moved from the one side to the other side in said movement direction” while the specification, page 41, discussed above, discloses to the contrary that “the electric signal measuring section 66 begins measuring the intensity of the electric signal obtained from the light-receiving member 40 at the normal measuring accuracy.” Claim 11 contains the same limitation.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1-4 and 11-15 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships mainly appear to be steps of how the apparatus determine a leading end of the medium.

For purposes of examination, these claims are interpreted to read as follows (emphasis is added for some but not all of the proposed changes):

Claim 1: A printing apparatus comprising:

a detection section that is capable of moving and that is for detecting a medium to be printed; and

a transporting section for transporting the medium to be printed in a direction that intersects a movement direction of said detection section;
said printing apparatus

causing said detection section to be positioned on one side in said movement direction;

causing said transporting section to transport said medium to be printed in a predetermined direction up to a detection position where said detection section detects said medium to be printed; and

causing said detection section to move from the one side to the other side that is opposite from the one side in said movement direction; and

when an upper end, among an upper right end and an upper left end of said medium to be printed, that is on a side opposite from a side where said detection section is positioned is leading by at least a set amount at said detection position, ~~causing said detection section to be positioned on the other side that is opposite from the one side in said movement direction,~~ causing said transporting section to transport said medium to be printed from said detection position in a direction opposite from said predetermined direction, then

causing said medium to be printed to be ~~carried~~ transported in said predetermined direction up to the detection position where said detection section detects said medium to be printed, and then

causing said medium to be printed to be ~~carried~~ transported by a predetermined amount in said predetermined direction from said detection position.

Claim 2: A printing apparatus according to claim 1, wherein
when an upper end, among the upper right end and the upper left end of said medium to be printed, that is on the side where said detection section is was positioned is leading at said detection position, said medium to be printed is ~~carried~~ transported by

said transporting section in said predetermined direction from said detection position by said predetermined amount.

Claim 3: A printing apparatus according to claim 2, wherein
when the upper end, among the upper right end and the upper left end of said medium to be printed, that is on the side opposite from the side where said detection section ~~is was~~ positioned is leading by less than said set amount at said detection position, said medium to be printed is ~~carried transported~~ by said transporting section in said predetermined direction from said detection position by said predetermined amount.

Claim 4: A printing apparatus according to claim 1, comprising:
a print head for printing on said medium to be printed by ejecting ink as said print head moves in a main-scanning direction that intersects the transporting direction in which said medium to be printed is carried transported.

Claim 11: A printing apparatus comprising:
a detection section that is capable of moving and that is for detecting a medium to be printed; and
a transporting section for transporting the medium to be printed in a direction that intersects a movement direction of said detection section;
a print head that moves in a main-scanning direction that intersects the transporting direction in which said medium to be printed is transported,
said detection section and said print head are disposed in or on a moving member for moving in said main-scanning direction;
said printing apparatus

causing said detection section to be positioned on one side in said movement direction;

causing said transporting section to transport said medium to be printed in a predetermined direction up to a detection position where said detection section detects said medium to be printed;

moving said detection section from the one side to the other side in said movement direction, while making it difficult for said detecting section to detect said medium to be printed so that and

if said detection section does not detect said medium to be printed, then it is assumed that the upper end, among the upper right end and the upper left end of said medium to be printed, that is on said one side in said movement direction of said detection section is leading at said detection position, or that the upper end, among the upper right end and the upper left end of said medium to be printed, that is on said other side in said movement direction of said detection section is leading by less than the set amount, and

if said detection section detects said medium to be printed, then it is assumed that the upper end, among the upper right end and the upper left end of said medium to be printed, that is on said other side in said movement direction of said detection section is leading by at least the set amount; wherein finding the upper end, among the upper right end and the upper left end of said medium to be printed, that is leading at said detection position by detecting whether or not said medium to be printed is present by moving said detection section from the one side to the other side in said movement direction after transporting said medium to be printed in said predetermined direction up to said detection position where said detection section positioned on the one side in said movement direction detects said medium to be printed; and

when an upper end, among an upper right end and an upper left end of said medium to be printed, that is on a side where said detection section is was positioned is leading at said detection position, causing said medium to be printed to be transported by said transporting section in said predetermined direction from said detection position by a predetermined amount;

when the upper end, among the upper right end and the upper left end of said medium to be printed, that is on the side opposite from the side where said detection section is was positioned is leading by less than said set amount at said detection position, causing said medium to be printed to be carried by said transporting section in said predetermined direction from said detection position by said predetermined amount;

when an upper end, among the upper right end and the upper left end of said medium to be printed, that is on a side opposite from the side where said detection section is was positioned is leading by at least a set amount at said detection position, causing said detection section to be positioned on the other side that is opposite from the one side in said movement direction, then causing said transporting section to transport said medium to be printed from said detection position in a direction opposite from said predetermined direction, then causing said medium to be printed to be transported in said predetermined direction up to the detection position where said detection section detects said medium to be printed, and then causing said medium to be printed to be transported by said predetermined amount in said predetermined direction from said detection position;

then, performing printing with respect to an entire surface of said medium to be printed by causing the print head to eject ink as said print head moves in a main-scanning direction that intersects the transporting direction in which said medium to be printed is carried.

Claim 12: A printing method for a printing apparatus provided with a sensor that is capable of moving and that is for detecting a medium to be printed, and a transport roller for transporting the medium to be printed in a direction that intersects a movement direction of said sensor, said printing method comprising:

a step of causing said sensor to be positioned on one side in said movement direction;

a step of causing said transport roller to transport said medium to be printed in a predetermined direction up to a detection position where said sensor detects said medium to be printed; and

a step of causing said sensor to move from the one side to the other side that is opposite from the one side in said movement direction, and

when an upper end, among an upper right end and an upper left end of said medium to be printed, that is on a side opposite from a side where said sensor ~~is was~~ positioned is leading by at least a set amount at said detection position, ~~causing said sensor to be positioned on the other side that is opposite from the one side in said movement direction, then~~ causing said transport roller to transport said medium to be printed from said detection position in a direction opposite from said predetermined direction, then

causing said medium to be printed to be ~~carried transported~~ in said predetermined direction up to the detection position where said sensor detects said medium to be printed, and then

causing said medium to be printed to be ~~carried transported~~ by a predetermined amount in said predetermined direction from said detection position.

Claim 13: A computer readable storage medium which stores program instructions for causing a printing apparatus, provided with a detection section that is capable of moving and that is for detecting a medium to be printed, and a transporting section for transporting the medium to be printed in a direction that intersects a movement direction of said detection section, to achieve:

a function of causing said detection section to be positioned on one side in said movement direction;

a function of causing said transporting section to transport said medium to be printed in a predetermined direction up to a detection position where said detection section detects said medium to be printed; and

a function of causing said detection section to move from the one side to the other side that is opposite from the one side in said movement direction, and

when an upper end, among an upper right end and an upper left end of said medium to be printed, that is on a side opposite from a side where said detection section ~~is was~~ positioned is leading by at least a set amount at said detection position, ~~causing said detection section to be positioned on the other side that is opposite from the one side in said movement direction, then~~ causing said transporting section to transport said medium to be printed from said detection position in a direction opposite from said predetermined direction, then

causing said medium to be printed to be ~~carried transported~~ in said predetermined direction up to the detection position where said detection section detects said medium to be printed, and

then causing said medium to be printed to be ~~carried transported~~ by a predetermined amount in said predetermined direction from said detection position.

Claim 14: A computer system comprising:

a printing apparatus provided with a detection section that is capable of moving and that is for detecting a medium to be printed, and a transporting section for transporting the medium to be printed in a direction that intersects a movement direction of said detection section; and

a main computer unit that is connected to said printing apparatus;

said computer system

causing said detection section to be positioned on one side in said movement direction;

causing said transporting section to transport said medium to be printed in a predetermined direction up to a detection position where said detection section detects said medium to be printed; and

causing said detection section to move from the one side to the other side that is opposite from the one side in said movement direction, and

when an upper end, among an upper right end and an upper left end of said medium to be printed, that is on a side opposite from a side where said detection section is was positioned is leading by at least a set amount at said detection position, causing said detection section to be positioned on the other side that is opposite from the one side in said movement direction, then causing said transporting section to transport said medium to be printed from said detection position in a direction opposite from said predetermined direction, then

causing said medium to be printed to be carried transported in said predetermined direction up to the detection position where said detection section detects said medium to be printed, and

then causing said medium to be printed to be carried transported by a predetermined amount in said predetermined direction from said detection position.

Claim 15: A printing apparatus comprising:

a sensor that is capable of moving and that is for detecting a medium to be printed; and

a transport roller for transporting the medium to be printed in a direction that intersects a movement direction of said sensor;

said printing apparatus

causing said sensor to be positioned on one side in said movement direction;

causing said transport roller to transport said medium to be printed in a predetermined direction up to a detection position where said sensor detects said medium to be printed; and

causing said sensor to move from the one side to the other side that is opposite from the one side in said movement direction, and

when an upper end, among an upper right end and an upper left end of said medium to be printed, that is on a side opposite from a side where said sensor is was positioned is leading by at least a set amount at said detection position, ~~causing said sensor to be positioned on the other side that is opposite from the one side in said movement direction, then~~ causing said transport roller to transport said medium to be printed from said detection position in a direction opposite from said predetermined direction, then

causing said medium to be printed to be carried transported in said predetermined direction up to the detection position where said sensor detects said medium to be printed, and

then causing said medium to be printed to be carried transported by a predetermined amount in said predetermined direction from said detection position.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

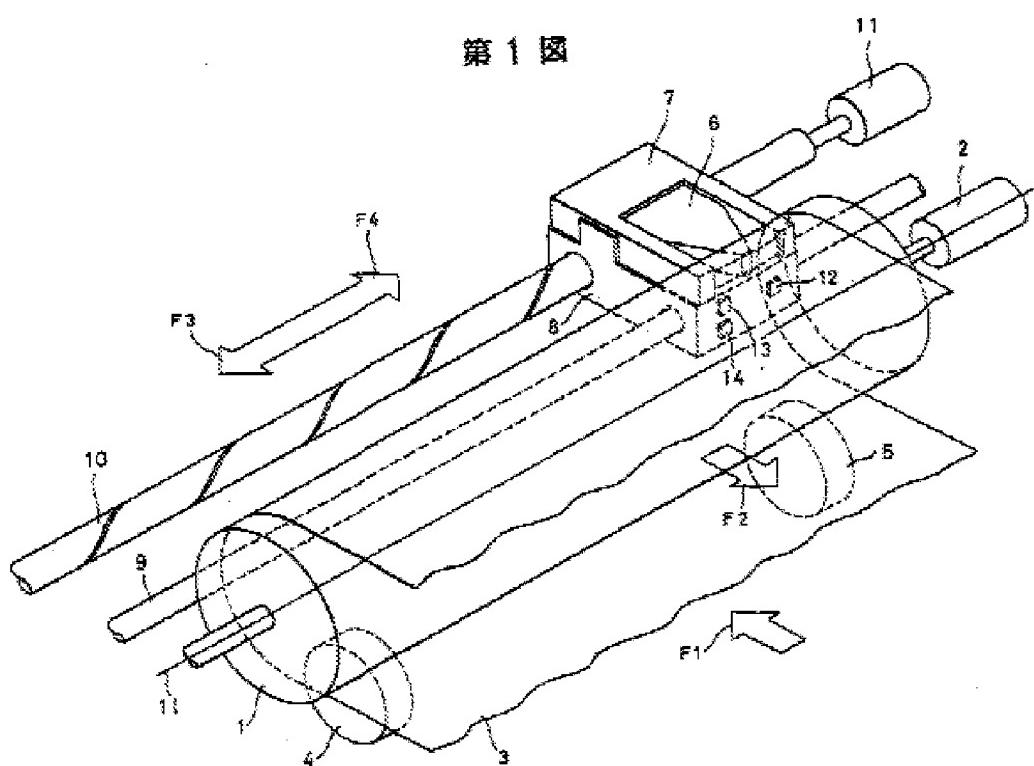
Claims 1-3, 6-9, 12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Noda (JP 60257279 A).

Noda teaches the following:

Claim 1:

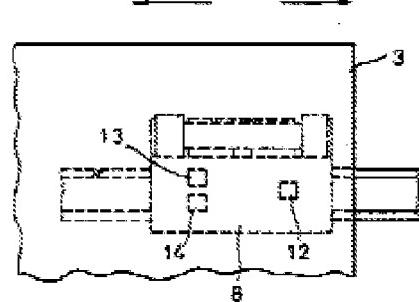
Noda teaches a printing apparatus (Figs. 1 & 3, reproduced below) comprising:
a detection section (sensors 12-14) that is capable of moving and that is for detecting a medium 3 to be printed; and
a transporting section (rollers 1-5) for transporting the medium 3 to be printed in a direction that intersects a movement direction of said detection section;
said printing apparatus
causing said detection section to be positioned on one side in said movement direction (See fig. 1; Abstract “the carriage 8 is moved in the direction of arrow F4 for the sensor 12 to detect the right end of the paper 3”);

第1図

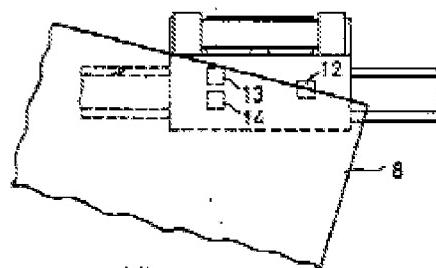


第3図

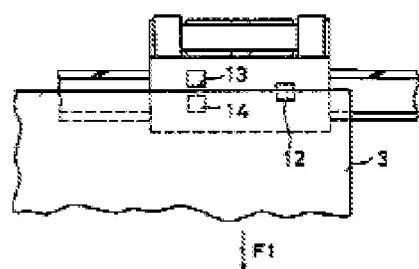
(a)



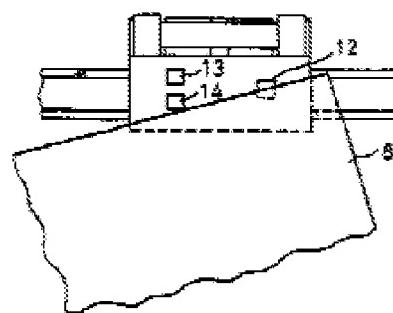
(c)



(b)



(d)



causing said transporting section to transport said medium to be printed in a predetermined direction up to a detection position where said detection section detects said medium to be printed (See figs. 3a, 3b); and

causing said detection section to move from the one side to the other side that is opposite from the one side in said movement direction (Abstract "then the carriage 8 is move at a fixed velocity in the direction of an arrow F3 for detection of the left end of the paper 3); and

when an upper end, among an upper right end and an upper left end of said medium to be printed, that is on a side opposite from a side where said detection section 12 was positioned is leading by at least a set amount at said detection position (as shown in fig. 3c), causing said transporting section to transport said medium to be printed from said detection position in a direction opposite from said predetermined direction (See fig. 3a; Abstract "The paper 3 is returned in the direction of an arrow F1 until the moment immediately before the output signal from the sensor 12 becomes "0"), then

causing said medium to be printed to be transported in said predetermined direction up to the detection position where said detection section detects said medium to be printed. Note: The sensor 12 detects the paper 3 in a first position shown in fig. 3a and in a second position shown in figs. 3b, 3c or 3d. Thus, in order for the apparatus to know when to stop the paper 3 at the second position shown in fig. 3b, 3c or 3d, the paper 3 must be returned past the sensor 12 so that the leading end position of the paper can be detected, i.e. the sensor 12 must turn from "1" to "0" as the paper is being returned for the sensor 12 to detect the leading end of the paper. As soon as the paper leading end is detected and the sensor 12 becomes "0," the paper 3 is stopped and then transported forward a small distance past the sensor 12 again so that the sensor 12

becomes "1" as specified. Certainly, in fig. 3a, the paper 3 may only need to be positioned (at the first position) barely downstream of the sensor 12 for the sensor 12 to detect the paper. As a result, the first and second positions of the paper may be substantially identical. That is, the paper 3 is returned (to the second position, Fig. 3b) then transported up to the detection position (first position, fig. 3a), as being claimed, in order to for the apparatus to determine the leading end and angle or amount of inclination of the paper.

then the said printing apparatus causing said medium to be printed to be transported by a predetermined amount in said predetermined (forward) direction from said detection position (first position) after being transported up to said detection position. Note: Noda teaches that the medium is fed to a print start position for printing (See abstract). As shown in figs. 1 & 3 above, the medium leading end is downstream of the print head 6 during the inclination determination. Inevitably, in order to print on the medium, the apparatus must transport the medium by a predetermined amount in the forward direction (to a print start position located under the print head 6), as being claimed.

Claim 2:

A printing apparatus according to claim 1, wherein when an upper end, among the upper right end and the upper left end of said medium to be printed, that is on the side where said detection section was positioned is leading at said detection position (as shown in Noda's fig. 3d), said medium to be printed is transported by said transporting section in said predetermined (forward) direction from said detection position by said predetermined amount (as discussed in claim 1).

Claim 3:

A printing apparatus according to claim 2, wherein when the upper end, among the upper right end and the upper left end of said medium to be printed, that is on the side opposite from the side where said detection section was positioned is leading by less than said set amount at said detection position (as shown in fig. 3b), said medium to be printed is transported by said transporting section in said predetermined direction from said detection position by said predetermined amount (See abstract and discussion in claim 1).

Claim 6:

Noda as modified teaches a printing apparatus according to claim 1, wherein the upper end, among the upper right end and the upper left end of said medium to be printed, that is leading at said detection position is found by detecting whether or not said medium to be printed is present by moving said detection section from the one side to the other side in said movement direction after transporting said medium to be printed in said predetermined direction up to said detection position where said detection section positioned on the one side in said movement direction detects said medium to be printed (Abstract “detect the presence or absence of a paper”).

Claim 7:

Noda as modified teaches a printing apparatus according to claim 6, wherein it is made difficult for said detection section to detect said medium to be printed when said detection section is moved from the one side to the other side in said movement direction (by detecting the medium only when the medium faces the detection section).

Claim 8:

A printing apparatus according to claim 7, wherein, in the process of moving said detection section from the one side to the other side in said movement direction, if said detection section does not detect said medium to be printed, then it is assumed that the upper end, among the upper right end and the upper left end of said medium to be printed, that is on said one side in said movement direction of said detection section is leading at said detection position, or that the upper end, among the upper right end and the upper left end of said medium to be printed, that is on said other side in said movement direction of said detection section is leading by less than the set amount, and if said detection section detects said medium to be printed, then it is assumed that the upper end, among the upper right end and the upper left end of said medium to be printed, that is on said other side in said movement direction of said detection section is leading by at least the set amount (See abstract & fig. 3).

Claim 9:

A printing apparatus according to claim 1, wherein said detection section has a light-emitting member for emitting light and a light-receiving member for receiving the light that is emitted by said light-emitting member, and detects said medium to be printed based on an output value of said light-receiving member (Abstract “reflection-type photo sensors 12-14”).

Claim 12:

A printing apparatus comprising all the elements being claimed and employed to practice a printing method comprising all the steps being claimed.

Claim 15:

A printing apparatus comprising all the elements being claimed (See figs 1 & 3 and discussion in claim 1 above).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5, 10, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noda in view of Oguchi (JP 04021482 A).

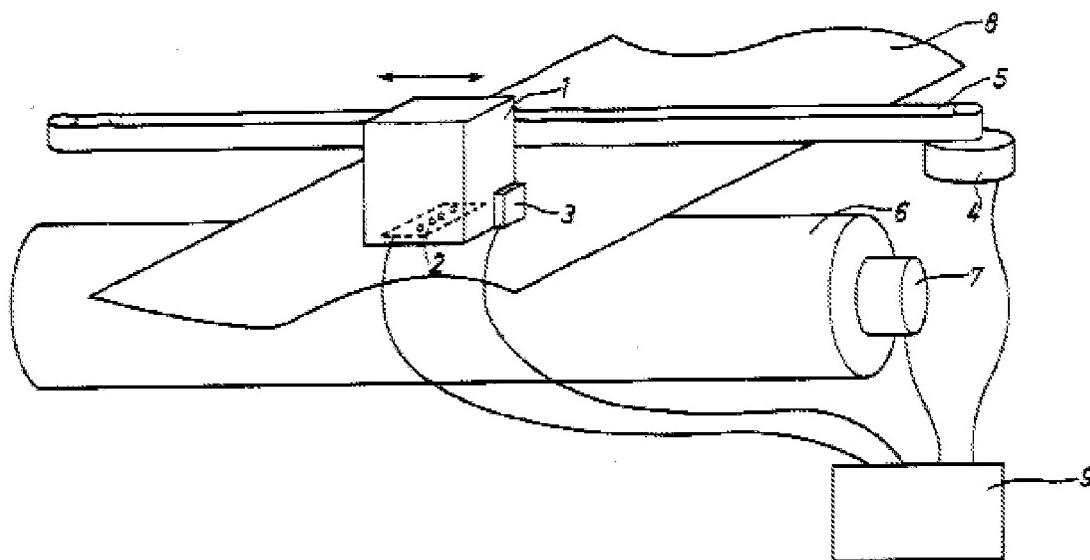
Claim 4:

Noda teaches a printing apparatus according to claim 1 (as discussed above).

It is not known to the examiner if Noda's print head 6 ejects ink for printing.

Oguchi teaches a printing apparatus (Fig. 1, reproduced below) comprising a detection section 3 that is capable of moving and that is for detecting a medium to be printed; and a transporting section (6, 7) for transporting the medium to be printed in a direction that intersects a movement direction of said detection section; said printing apparatus: causing said detection section to be positioned on one side in said movement; causing said transporting section to transport said medium to be printed in a predetermined direction up to a detection position where said detection section detects said medium to be printed; and causing said detection section to move from the one side

to the other side that is opposite from the one side in said movement direction, in order to measure the inclination of the medium and to placing the medium in a proper print start position based on the measured inclination, etc. Oguchi further teaches that the print head 2 for printing on said medium is an inkjet print head that ejects ink as said print head moves in a main-scanning direction that intersects the transporting direction in which said medium to be printed is transported, in order to carry out high quality or color printing.



■ 1 ■

It would have been obvious to one of ordinary skill in the art at the time the present invention was made, in view of Oguchi, to use an inkjet print head which ejects ink for Noda's print head 6 to carry out high quality or color printing.

Claim 5:

Noda as modified teaches a printing apparatus according to claim 4, wherein said detection section is provided together with said print head in or on a moving

member 1 (shown in Noda's or Oguchi's figures above) for moving in said main-scanning direction.

Claim 10:

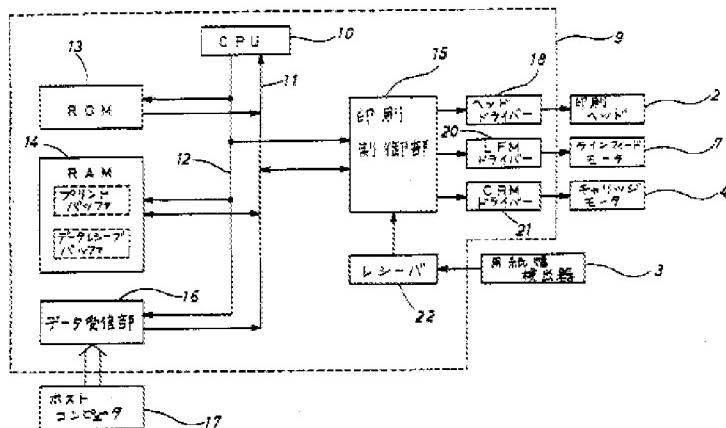
Noda as modified teaches a printing apparatus according to claim 3, wherein the print head performs printing with respect to an entire surface of said medium to be printed (Oguchi's abstract "To ensure printing in the full printable area of the paper." Also, it is obvious that the entire medium used in Noda's apparatus is used for printing).

Claim 11:

Noda as modified teaches a printing apparatus comprising all the elements being claimed (as discussed above).

Claim 13:

Noda as modified teaches a computer readable storage medium (RAM 14 – See Oguchi's fig. 2, reproduced below) which stores program instructions for causing a printing apparatus, discussed above, to achieve all the functions being claimed.



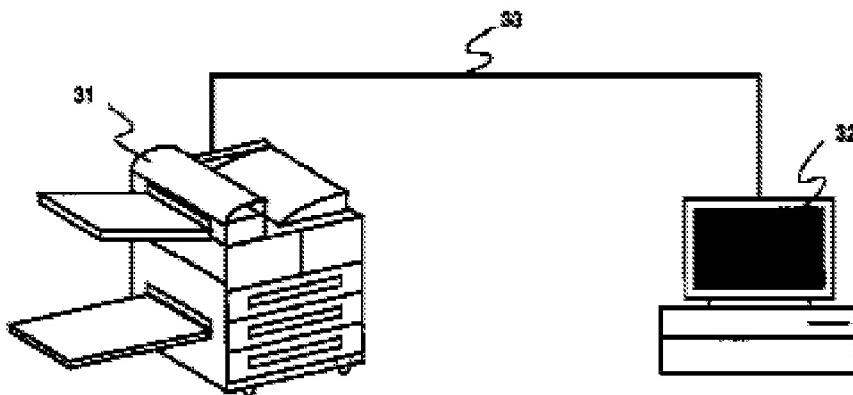
第 2 図

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noda in view of Oguchi, and further in view of Itagi et al. (JP 11184590 A).

Noda in view of Oguchi teaches a computer system (Oguchi's fig. 2) comprising all the elements being claimed, except for a main computer unit that is connected to the printing apparatus, although Noda in view of Oguchi does teach that a user needs to provide input 17 (See Oguchi's fig. 2 above) to run the printing apparatus.

Itagi teaches a computer system comprising a printing apparatus 31 and a main computer unit 32 (See fig. 15, reproduced below) that is connected to the printing apparatus for a user to provide input to run the printing apparatus and for the printing apparatus to clearly display abnormalities associated with the printing apparatus (See abstract).

【図15】



It would have been obvious to one of ordinary skill in the art at the time the present invention was made to provide Noda's or Oguchi's printing apparatus with a main computer unit that is connected to the printing apparatus for a user to provide input to run the printing apparatus and for the printing apparatus to clearly display abnormalities associated with the printing apparatus, as taught by Itagi.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to 'Wyn' Q. HA whose telephone number is (571)272-2863. The examiner can normally be reached on Monday - Friday, from 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NQH

/Jill E. Culler/
Primary Examiner, Art Unit 2854